



PEACE/WILLISTON  
FISH & WILDLIFE  
COMPENSATION  
PROGRAM

## Wetland Enhancement Blasting Trials, 1990

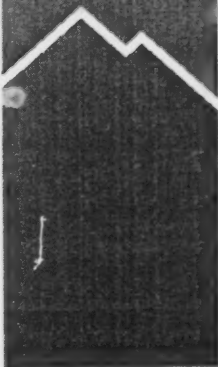
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**BChydro** 

R. Dawson  
November 1990



BRITISH  
COLUMBIA



PFWWCP Report No. 4

The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

**Peace/Williston Fish and Wildlife Compensation Program, 1011 Fourth Ave.  
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Website: [www.bchydro.bc.ca/environment/initiatives/pwcp/](http://www.bchydro.bc.ca/environment/initiatives/pwcp/)

**This report has been approved by the Peace/Williston Fish and Wildlife  
Compensation Program Fish Technical Committee.**

**Citation:** R. Dawson. November 1990. Wetland enhancement blasting trials, 1990. Peace/Williston Fish and Wildlife Compensation Program, Report No. 4. 2pp plus appendices.

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## WILLISTON WILDLIFE PROJECT REPORT

PROJECT DATE: October 1990

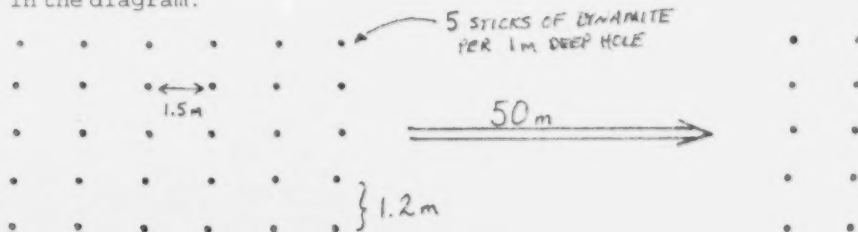
PROJECT TYPE: Wetland enhancement for waterfowl

PROJECT Location: Two sites south-east side of the Parsnip arm of Williston Lake: Mischinsinlika foreshore and Buth marsh (see map & airphotos [BCC930 #52 and BCC931 #165]).

### PROJECT DETAILS:

Blasting was used as a technique to create ponds for waterfowl. At site 1 two test holes were blown to determine explosive requirements and for monitoring in the Spring for water retention. At site 2 five ponds of various sizes were created using various combinations of explosive charges. The results and methods are summarized as follows:

- A. One 50m x 7m pond was created using a grid of explosives laid out as shown in the diagram.



Result: pond produced was shallower than ideal (10-70cm). Possible reasons include: 1) not enough resistance from deep wet organic substrate, 2) not enough wind - much of the blasted material fell back into the hole, 3) not enough explosives. This grid of explosives took 3 people approximately 8 hours to lay out.

- B. Two 6m diameter ponds 1-2m in depth were each made with one 1.2m deep hole containing 64 sticks of forcite. These ponds took less than an hour in total to lay out.
- C. One 6m x 16m pond (1-2m deep) was made using four 1.2m deep holes with 64 sticks per hole spaced 4m apart.
- D. One 6 x 22m pond (1-2m deep) was made using 5 holes as described for the previous pond. The use of few but heavily loaded holes was very effective in terms of labour required and the results produced.

#### PROJECT COST:

The following costs are approximate:

|                 |        |
|-----------------|--------|
| helicopter      | \$700  |
| explosives      | \$2500 |
| travel expenses | \$400  |
| Total           | \$3600 |

NOTE: costs do not include labour costs.

#### PROJECT MONITORING:

1. Site 1 ponds (Mischinsinlika foreshore) will be monitored for water retention in the spring and summer of 1991.
2. Site 2 ponds (Buth marsh) will be monitored for waterfowl use over the next few years.

#### RECOMMENDATIONS:

1. This method of waterfowl habitat enhancement seems to be effective but future monitoring will determine this for sure. In the deep wet organic soils of site 2, the heavier charges of 64 sticks per hole was effective and took less labour.
2. If the test holes at site 1 hold water, more ponds should be created in the area either by blasting or digging with heavy machinery. This site would provide excellent duck breeding habitat if stable, shallow pond could be provided.
3. The program of wetland inventory in the Williston watershed should be continued to identify and prioritize potential enhancement projects.
4. Projects should be undertaken cooperatively with Ducks Unlimited and local trappers where possible.

Mackenzie

Mackenzie 10 km

05

1231



30 BC0934-52

Site 2

2-16-62

Pacific International Map



SD 886931-109

Site 1

Island!



